

120-3-1/40

Linear Theory of Synchrotron Oscillations. II - Particle Losses
During Acceleration and the Tolerenace Theory.

up in the form:

$$\frac{\partial \mathbf{E}}{\partial \tau} = \frac{\partial}{\partial y} \left(y \frac{\partial \mathbf{E}}{\partial y} \right) + \frac{U'_{\max}}{\Delta U} \frac{\partial}{\partial y} (y \mathbf{E}) \quad (9)$$

Here $U = C_1^2 + C_2^2$, $y = U/U_{\max}$, $d\tau = (\Delta U/U_{\max})dx$,

$U'_{\max} = \frac{d}{dx} U_{\max}$, and $\mathbf{E}(y, \tau)$ is the particle distribution function. The boundary condition is:

$$\mathbf{E}(l, \tau) = 0, \quad (10)$$

where:

$$U'_{\max}/\Delta U = - \frac{\Omega'}{\Omega} \frac{A_{\max}^2}{\Delta A^2}, \quad (11) \text{ where } A \text{ is the}$$

Card 4/6

121-3-1/40

Linear Theory of Synchrotron Oscillations. II - Particle Losses
During Acceleration and the Tolerance Theory.

amplitude of phase oscillations. The above general equation can be solved only by numerical methods, a knowledge of the particular form of the dependence of U'_{\max}/\sqrt{U} on τ being of decisive importance. Calculations of this type must be carried out separately for each given machine but if this quantity is independent of τ an analytic solution necessary for the determination of the tolerances can be obtained. It is shown that without taking into consideration the natural damping of the oscillations, the fraction of particles remaining up to the end of the cycle is determined by the quantity:

$$\exp \left(- \frac{1.45}{A_{\max}^2} \int \Delta A^2 dx \right) . \quad (23)$$

This formula represents an underestimate. If one takes into account (in some form) adiabatic damping of the oscillations the fraction K of particles remaining after acceleration is given approximately by:

Card 5/5

100-7-1/7

Linear Theory of Synchrotron Oscillations. II - Particle Losses
During Acceleration and the Tolerance Theory.

$$K = (\epsilon_1/\beta)^{0.45} \exp \left[-1.45 \int \frac{\Delta A^2}{A_{\max}^2} dx \right] . \quad (39)$$

The paper is divided into six sections under the headings:
1. Introduction, 2. Fokker-Planck equation, 3. Solution of
the Fokker-Planck equation, 4. Particle losses at the begin-
ning of the acceleration cycle, 5. Tolerance calculations,
6. Particle losses for arbitrary perturbations. Results of
calculations of the various functions involved are summar-
ised in six figures. V.V.Vladimirskii and I.S.Bruk super-
vised this work. N.M.Sukhacheva carried out computations.
There are 4 references, 3 Russian and 1 English.

SUBMITTED: January 19, 1957.

AVAILABLE: Library of Congress.

Card 3/3 1. Synchrotrons-Oscillation 2. Mathematics-Theory

KOSHKAREV, D. G.

Cand Phys-Math Sci - (diss) "Synchronous vibrations in the accelerator with hard focussing (linear theory)." Moscow, 1961. 7 pp; (Physics Inst imeni P. N. Lebedev of the Academy of Sciences USSR); 200 copies; price not given; bibliography at end of text (10 entries); (KL, 6-61 sup, 195)

40745

S/120/62/000/004/011/047
E140/E420

24.3.7.11
AUTHORS: Vladimirskiy, V.V., Koshkarev, D.G., Onosovskiy, K.K.,
Smolyankina, T.G., Smirnitskiy, V.A., Danil'tsev, Ye.N.,
Lazarev, N.V., Lapitskiy, Yu.Ya., Pligin, Yu.S.,
Batalin, V.A.

TITLE: The ion guide and beam-introduction system of the
proton synchrotron

PERIODICAL: Pribory i tekhnika eksperimenta, no.4, 1962, 70-75

TEXT: From experimental work on the 4 Mev electrostatic generator used for beam injection, it was found that the diameter of the matched beam in the accelerator chamber would be not less than about 25 mm. The injection system was therefore designed to use plane condensers instead of slot condensers. As the phase volume of the beam was four times greater than expected, the focusing was strengthened by the use of quadrupole lenses. The beam introduction system is shown in Fig.2, where $C_{1,2,3}$ are condensers, C_1 is constructed from stainless steel plates, $\ell = 600$ mm, $h = 35$ mm, bent to a radius of 4000 mm, $V = 80$ kV, $\omega = 171$ mr, $\Delta V/V = 1.5 \times 10^{-3}$.

Card 1/3

S/120/62/000/004/011/047
E140/E420

The ion guide and beam-introduction ...
 C_2 has $\ell = 220$ mm, $h = 20$ mm, $V = 62$ kV, $\omega = 85$ mr and
 $\Delta V/V = 2.2 \times 10^{-3}$. C_3 has $\ell = 220$ mm, $h = 80$ mm,
 $V = 56$ kV, $\omega = 9.6$ mr, $\Delta V/V = 1 \times 10^{-2}$, where ℓ is length of
the plates, h is the distance between them, ω is the angle
through which the beam is bent and $\Delta V/V$ is the required stability.
Calculation on the design of the system and its adjustment are
given, in particular design details are presented on the first
condenser C_1 , the electrostatic quadrupole lenses, the ion guide
and the magnetic quadrupole lenses. The electrostatic quadrupole
lens consists essentially of four stainless steel plates with a
hyperbolic profile and the magnetic quadrupole lens is calculated
for a gradient of 350 Oe/cm and a length of 15 cm with a magnetic
aperture of 60 mm. There are 12 figures.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki
GKAE (Institute of Theoretical and Experimental
Physics GKAE)

SUBMITTED: March 31, 1962
Card 2/3

24.6730:

S/120/62/000/004/027/047
E140/E420

AUTHOR: Koshkarev, D.G.

TITLE: Design characteristics of the phase motion of particles in the proton synchrotron

PERIODICAL: Pribory i tekhnika eksperimenta, no.4, 1962, 138-140

TEXT: The parameters defining the phase motion of the charged particles are calculated in the linear approximation and tabulated. From the prescribed fraction of lost particles the tolerances on noise and resonance disturbances in the electronic equipment and the magnetic field are calculated. The calculations take into account the adiabatic damping. These tolerances are more stringent than actually required with feedback into the control unit of information on the beam. However, in the initial phases of adjustment of the system, stable acceleration is required at least in the initial part of the cycle. There are 1 figure and 1 table. ✓B

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki
GKAE (Institute of Theoretical and Experimental Physics GKAE)

SUBMITTED: March 16, 1962
Card 1/1

KOSHKAREV, D.G.

381150

S/089/62/012/006/003/019
B102/B104

24-6730

AUTHORS:

Vladimirovskiy, V. V., Komar, Ye. G., Mintsev, A. L.,
Gol'din, L. I., Monchzon, N. A., Rubchinskii, S. M.,
Tarasov, Ye. K., Vasil'yev, A. A., Vodoplyanov, F. A.,
Koskharev, D. G., Kuryshev, V. S., Malyshov, I. P., Stolov,
A. M., Streletsov, N. S., Yakovlev, B. M.

TITLE:

The design of the 7-Bev proton synchrotron

PERIODICAL:

Atomnaya energiya, v. 12, no. 6, 1962, 472-474

TEXT: The history of the first Soviet cyclic accelerator with rigid focusing is briefly described, and the most important data on its planning and operation are presented. Planning was started in 1953. The parameters of this proton accelerator, the energy of which exceeds the antinucleon production threshold, were so chosen that the dependence of the orbital circumference on the particle momenta was completely compensated. This was achieved by employing 14 quadrupole magnets with orbits of negative curvature. Technical data: output current, 10^{10} protons/pulse; maximum field strength, 8475 oe; length of equilibrium orbit, 251.2 m; radius of

Card 1/2

The design of the 7-Bev ...

3/089/62/012/006/003/012
B102/B104

curvature of the trajectories in the bending magnets (C), 31 m, and in the compensation magnets (X), ∞ ; number of magnetic sectors, $98C + 14X$; gap length between the C-magnets, 304.0 mm; gap length around the X-magnets, 417.5 mm; index of the decrease in field strength, 460; internal height and width of the chamber, 80 and 110 mm, respectively; number of betatron oscillations per revolution, 12.75, and per periodic element, 0.91; number of magnets per periodic element, 8; total critical energy, 19.2 Bev; maximum deviation of the periodic orbit with 100% deviation of the momentum from the equilibrium momentum, 1.47 m; rate of energy increase per revolution, 4.3 kev; duration of one cycle, 1.55 sec; 10-12 cycles/min; particle revolution frequency at the beginning of the cycle, 0.11 Mc/sec, and at the end, 1.19 Mc/sec; frequency of synchrocyclotron oscillations, 3600 and 130 cps; weight of the electromagnet steel, 2500 tons; maximum power of the supply system, 25 Mw; Van de Graaff injector (particle energy, 3.8 Mev; field strength 90 oersted); admissible deviations from field strength and field gradients, $\sim 10^{-3}$; deviations at the chamber edge due to nonlinearities, $\sim 10^{-2}$; admissible frequency deviation of the accelerating field at the beginning of the cycle, 10^{-3} , and at the end, $5 \cdot 10^{-5}$. There are 1 figure and 1 table.

SUBMITTED: March 12, 1962
Card 2/2

34.6734

S/120/62/000/004/030/047
E140/E420

AUTHORS: Kulakov, F.M., Kardash, A.A., Bobovikov, R.S.,
Spevakova, F.M., Gol'din, L.L., Kleopov, I.F.,
Koshkarev, D.G., Radkevich, I.A., Sokolovskiy, V.V.,
Sharnov, B.I.

TITLE: The system for magnetic field correction of the
proton synchrotron.

PERIODICAL: Pribory i tekhnika eksperimenta, no.4, 1962, 158-167

TEXT: The magnetic field configuration in the strong-focused
7 Gev machine is adjusted by a series of correction systems
permitting the betatron oscillation frequency to be controlled
and resonance disturbances of the orbit to be eliminated. The
system used for field correction is described together with the
system for switching and exciting the windings, with experimental
data on their effect on the beam. The windings permit
adjustment of the magnetic field decay index, the azimuthal
asymmetry of the field, compensation of the nonlinear distortion
of the field with saturation, correction of the position of the
neutral plane and the differences between the focusing and
Card 1/2.

(1)

The system for magnetic field ...

S/120/62/000/004/030/047
E140/E420

13

defocusing groups of blocks. There are two sets of these windings, the "gradient" and the "nonlinear" windings on the magnetic pole surfaces facing the chamber. Measured data presented in the article indicate the effectiveness of the corrections in stabilizing the betatron frequency. However, it is considered that further adjustments will be made in the course of the work. There are 15 figures.

ASSOCIATIONS: Institut teoreticheskoy i eksperimental'noy fiziki GKAE (Institute of Theoretical and Experimental Physics GKAE)
Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury GKAE (Scientific Research Institute for Electrophysical Apparatus GKAE)

SUBMITTED: March 29, 1962

Card 2/2

KOSHKAREV, D. G.

24690.

10766

S/120/62/000/004/047/047
E039/E420

AUTHORS: Vladimirs'kiy, V.V., Gol'din, L.L., Pligin, Yu.S.,
Veselov, N.A., Talyzin, A.N., Tarasov, Ye.K.,
Koshkarov, D.G., Lapitskiy, Yu.Ya., Barabash, L.Z.
Kleopov, I.F., Lebedov, P.I., Kuz'min, A.A.,
Batalin, V.A., Onosovskiy, K.K., Uvarov, V.A.,
Vodop'yanov, F.A.

TITLE: Adjustment of the acceleration regime of the 7 Gev
proton synchrotron

PERIODICAL: Pribory i tekhnika eksperimenta, no.4, 1962, 248-255

TEXT: In order to establish the optimum parameters for
programming the control frequency the intensity, position,
and frequency and amplitude of transverse oscillation of the beam
is measured in three stages: (1) during the first revolution,
(2) with a circulating beam and (3) with acceleration.

For measurements on the first revolution long afterglow
scintillation screens are used which are either observed visually
or by means of a television camera. The screens are placed in
the sections between magnet blocks; 15 in the initial part and
10 in the final part of the chamber. It is shown that the orbit does not

Card 172

S/120/62/000/004/047/047
EO39/E420

Adjustment of the acceleration ...

deviate by more than 1.5 cm from the axis during the first revolution. Circulating beams without acceleration are obtained which continue for 20 to 30 revs. The circulating current is determined by means of a flight tube and the transverse oscillation frequency with an electrostatic probe with double vertical and horizontal plates. Scintillation screens in the form of a grid with 85% transmission are used to show the beam position and diameter for 5 to 10 revs. The beam diameter is shown to be about 4 cm under normal conditions. Investigations are carried out on the optimum form of the frequency-time relation for holding the beam in orbit. The width of the trapping region is ± 3 Kc/s for an initial frequency of 750 Kc/s which agrees well with theoretical estimates. Preliminary adjustment permitted the attainment of 6.2 Gev protons and after adjustment 7.2 Gev protons were obtained on October 25, 1961. The usual intensity on a normal cycle lies in the range 3 to 5×10^9 . There are 7 figures and 3 tables.

ASSOCIATION: Institut teoretičeskoy i eksperimental'noy fiziki
GKAE (Institute of Theoretical and Experimental Physics GKAE)

SUBMITTED: April 11, 1962

Card 2/2

VLADIMIRSKIY, V.V.; KOMAR, Ye.G.; MINTS, A.I.; GOD'DIN, L.L.; MOMOSZON, N.A.;
RUBCHINSKIY, S.M.; TARASOV, Ye.K.; VASIL'YEV, A.A.; VODOP'YANOV, F.A.;
KOSHKALEV, D.G.; KURYSHEV, V.S.; MALYSHEV, L.F.; STOLOV, A.M.;
STREL'TSOV, N.S.; YAKOVLEV, B.M.

Designing a 7 Bev. synchrotron. Atom. energ. 12 no.6:472-474 Je
'62. (MIRA 15:6)
(Synchrotron)

KOSEKAREV, D.G.

Characteristics of the phase movement of particles as calculated for a proton synchrotron. Prib. i tekhn. ekspl. 7 no.4:
138-140 Jl-Ag '62. (MIRA 16:4)

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR.
(Synchrotron)

KULAKOV, F.M.; KARDASH, A.A.; BOBOVIKOV, R.S.; SPEVAKOVA, F.M.;
GOL'DIN, L.L.; KLEOPOV, I.F.; KOSHKAREV, D.G.; RADKEVICH, I.A.;
SOKOLOVSKIY, V.V.; SHARNOV, B.I.

Magnetic field correction systems for a proton synchrotron.
Prib. i tekhn. eksp. 7 no.4:158-167 Jl-Ag '62.
(MIRA 16:4)

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosu-
darstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR
i Nauchno-issledovatel'skiy institut elektrofizicheskoy
apparatury Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy
energii SSSR.

(Synchrotron) (Magnetic fields)

VLADIMIRSKIY, V.V.; GOL'DIN, L.L.; PLIGIN, Yu.S.; VESELOV, M.A.;
TALYZIN, A.N.; TARASOV, Ye.K.; KOSHKAREV, D.G.; LAPITSKIY,
Yu.Ya.; BARABASH, L.Z.; KLEOPOV, I.F.; LEBEDEV, P.I.;
KUZ'MIN, A.A.; BATALIN, V.A.; ONOSOVSKIY, K.K.; UVAROV, V.A.;
VODOP'YANOV, F.A.

Adjustment of acceleration in the 7 bev. proton synchrotron.
Prib. i tekhn. eksp. 7 no. 4:248-255 Jl-Ag '62. (MIRA 16:4)

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosu-
darstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR.

KOSHKAREV, D.G.

VLADIMIRSKIY, V.V.; KOMAR, Ye.O.; MINTS, A.L.; GOL'DIN, L.L.;
MONOSZON, N.A.; RUBCHINSKIY, S.M.; TARASOV, Ye.K.; VASIL'YEV, A.A.;
VODOP'YANOV, F.A.; ^{KURYSHEV} KOSHKAREV, D.G.; KURYSHEV, V.S.; MALYSHEV, I.F.;
STOLOV, A.M.; STREL'TSOV, N.N.; YAKOVLEV, B.M.

The 7 bev. proton synchrotron. Prib. i tekhn. eksp. 7 no.4:5-9
(MIRA 16:4)
J1-Ag '62.

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosu-
darstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR,
Nauchno-issledovatel'skiy institut elektrofizicheskoy apparatury
Gosudarstvennogo komiteta po ispol'zovaniyu atomnoy energii
SSSR i Radiotekhnicheskiy institut Gosudarstvennogo komiteta
po ispol'zovaniyu atomnoy energii SSSR.
(Synchrotron)

VLADIMIRSKIY, V.V.; KOSHKAREV, D.G.; ONOSOVSKIY, K.K.;
SMOLYANKINA, T.G.; SMIRNITSKIY, V.A.; DANIL'TEV, Ye.N.;
LAZAREV, N.V.; LAPITSKIY, Yu.Xa.; PLIGIN, Yu.S.; BATALIN, V.A.

Ion guide and beam injection system in a proton synchrotron.
Prib. i tekhn. eksp. 7 no.4:70-75 Jl-Ag '62.

(MIRA 16:4)

1. Institut teoreticheskoy i eksperimental'noy fiziki Gosu-
darstvennogo komiteta po ispol'zovaniyu atomnoy energii SSSR.
(Synchrotron)

L 43085-65 EHT(m)/EPA(w)-2/EWA(m)-2 ACCESSION NR: AP5007915	P-10/Pt-7 IJP(c) GS S/0000/64/000/000/0086/0089
AUTHOR: <u>Vladimirskiy, V. V., Koshkarev, D. G., Tarasov, Ye. K.</u>	<i>43</i> <i>37</i> <i>B</i>
TITLE: <u>500-Gev proton accelerator</u>	
SOURCE: <u>International Conference on High Energy Accelerators. Dubna, 1963.</u> <u>Trudy. Moscow, Atomizdat, 1964. 86-89</u>	
TOPIC TAGS: <u>high energy accelerator, injector, synchrotron</u>	
ABSTRACT: The present report discusses a third alternative of an injector ring, whose advantage would be the fact that such an accelerator-injector has already been built at Serpukhov, namely the 70-Gev accelerator of the Institute of Theoretical and Experimental Physics, which has a ring just seven times smaller in length than that of the main accelerator. The 70-Gev accelerator can operate both as an independent device producing a proton beam with an energy of 70 Gev and also as an injector with an energy of 15 Gev per cycle. Provision would be made for the use of multi-turn injection on the Serpukhov accelerator to increase the intensity. (The first alternative was an auxiliary proton synchrotron with an energy of 15 Gev, proposed in 1959 by Sandson. The second alternative was a long injector which	
Card 1/2	

L 43085-65		
ACCESSION NR: AP5007915		
<p>has a ring equal in length to the main accelerator and is placed in the same ring chamber.) The report presents the main parameters of the 500-Gev accelerator and the arrangement of its magnets and the correcting elements. Serpukhov possesses, it is noted, enough space for an accelerator even larger than the 70-Gev, which would become its injector. The comparatively long acceleration time of 6 seconds in the parameter list is due to the properties of the injector, in which the energy distribution of the accelerated particles is rather large. Acceleration time would decrease at higher radio-frequencies. The authors take this opportunity to express their thanks to F. A. Vodop'yanov (RIAN SSSR) for his very valuable ideas in the field of high-frequency accelerating systems, to L. L. Gol'din for his active participation in the selection of the parameters of the preliminary alternative of the accelerator, and to the computer specialists O. N. Vasil'yeva, T. K. Stadnikova, and N. I. Cherepova for carrying out the large quantity of numerical computations." Orig. has 2 figures, 1 table.</p>		
<p>ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki GKAE SSSR (Institute of Theoretical and Experimental Physics, GKAE SSSR)</p>		
Card 2/3	SEARCHED	20 MAY 67

L 43088-65 EWT(m)/ EPA(n)-2/EWA(m)-2 ACCESSION NR: A75007918	Pub-10/Pt-7 IJP(c) JT/GS S/0000/54/000/000/0197/0201 38 34 B-1
AUTHOR: Vladimirov, V. V.; Gol'din, L. I.; Kosykhov, D. G.; Tarasev, Ye. K.; Kulikov, V. V.; Malyshev, I. F.; Monoszon, N. A.; Popkovich, A. V.; Stolov, I. M.; Strel'tsov, N. S.; Titov, V. A.; Vodop'yanov, F. A.; Kuz'min, A. A.; Kuz'min, V. P.; Mintsev, A. I.; Rubchinskiy, S. M.; Uvarov, V. A.; Zhdanov, V. M.; Filatov, S. G.; Shiryaev, F. Z.	
TITLE: 60-70 GeV Proton Synchrotron	
SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy, Moscow, Atomizdat, 1964, 197-201	
TOPIC TAGS: high energy accelerator, synchrotron	
ABSTRACT: A 60-70 GeV proton synchrotron with strong focusing is being constructed not far from Serpukhov, as has been reported earlier (e.g. "Research Institute for Electro-Physical Equipment, Leningrad," in Proceedings of the International Conference on High Energy Accelerators and Instrumentation (CERN, 1959), p. 373). The present report describes parameter changes and improvements in precision structural characteristics of the accelerator, and the present state of construction in mid-1963. The parameters of the magnet are presented in a table. A small change in the original plans permitted an increase in the length of a part of the free	

Cord 1/4

L 43088-65

ACCESSION NR: A15007918

sections, some of which are utilized for input and exit of beams. The super-period design is described. The lengthened sections were obtained as a consequence of shortening the focusing and defocusing blocks by 112 cm. The focusing properties of the magnetic channel were diminished consequently, but very little, and the limiting energy was lowered by 2-3 Gev. The construction of the magnet is described. Each of the magnetic blocks is divided lengthwise into 5 sub-blocks which are enveloped by the common winding. These sub-blocks consist of laminar two-millimeter silicon steel. These steel sheets were stamped out without subsequent mechanical working, and were subjected to sorting and intermixing in order to smooth out their magnetic characteristics. The sub-blocks are constricted by lateral welded plates without adhesion. Provision was made for windings on the poles in order to correct for pole nonlinearity and for variations in the drop reading. These windings make it possible to introduce artificial quadratic (square) nonlinearity that changes the dependence of the frequency of transverse oscillations during a pulse. In order to correct for straying of the main field, provision has been made for windings on the yoke in series with the individual field, provision has been made for calibration on a magnet stand in order to make correcting systems more precise and to determine the most convenient disposition of the sub-blocks along the ring. The winding of the electromagnet is made of aluminum busbars with hollow cores for cooling water. The length of the busbar is so selected that there would be no

Card 2/4

L 43088-65

ACCESSION NR: AT5007918

welded joints inside the coils. The winding consists of 4 sections, two of which are disposed on the upper pole and two on the lower. The most important characteristics of the electromagnet and power supply system are described in a table. Also described are the vacuum chamber and accelerating field (obtained by 53 paired resonators with ferrite rings, which operate at the 30-th harmonic of revolution and give accelerating potential of 350 kilovolts). The ring tunnel and the general arrangement of the accelerator are shown in figures and described. The building for the injector and portions of the ring tunnel from the injector to the experimental room have been completed in the main and are ready for installation of equipment. This room, in the form of a single-aisle building without internal supports, permits one to work on beams brought into the inner and outer sides. A 90-meter arch covers this room, whose overall length is 150 meters. Provisions have been made for a second experimental room at the southwest part of the ring. Orig. has 4 figures, 2 tables.

ASSOCIATION: Institute teoreticheskoy eksperimental'noy fiziki GKAE SSSR
(Institute of Theoretical and Experimental Physics, GKAE SSSR). (2) Nauchno-
issledovatel'skiy institut elektrofizicheskoy apparatury imeni D. V. Yefremova
GKAE SSSR (Scientific Research Institute of Electophysical Apparatus, GKAE SSSR).

Card 3/4

L 43088-65	
ACCESSION NR: AT5007918	
(3) Radiotekhnicheskiy institute AN SSSR (Radio Engineering Institute, Academy of Sciences SSSR). (4) Gosudarstvennyy proyektornyy institut GKAE SSSR (State Planning Institute, GKAE SSSR).	
SUBMITTED: 26May84 NO REP SOV: 002	ENCL: 00 OTHER: 001
SUB CODE: EE, NP	
AMN Card 4/4	

L 2151-66 EWT(m)/EPA(w)-2/EWA(m)-2 IJP(c) GS
ACCESSION NR: AT5007960 UR /0000/64/000/000/0882/0885

AUTHOR: Zenkevich, F. R.; Koshkarev, D. G.

TITLE: Suppression of forced oscillations in ring accelerators 19

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963.
Trudy. Moscow, Atomizdat, 1964, 882-885

TOPIC TAGS: high energy accelerator, forced vibration, particle beam

ABSTRACT: The forced oscillations of accelerated particles occupy a considerable part of the chamber in ring accelerators. In the design and construction of large-energy accelerators the problem of decreasing the chamber aperture acquires foremost importance, because the size of the aperture determines in significant degree the cost of the accelerator and the very possibility of its creation. Recently in this connection methods have been developed for the automatic control of beam parameters according to the data on the beam, which permit a sharp reduction in the magnitude of the forced oscillations of the beam center of gravity and, consequently, the aperture of the accelerator chamber, (Burshteyn, E. L., et al. DAN 141, 590 (1961)). In the present work it is proposed to decrease the amplitude of oscillations.

Card 1/4

L 2151-66

ACCESSION NR: AT5007960

tions of the beam center of gravity by the use of a system for correcting the beam position with negative feedback in accordance with the derivative. Such a system causes increased damping of the forced oscillations of the beam center of gravity, if the forcing force depends weakly upon the time. In the general case of the action upon the beam of a forcing force of arbitrary frequency, the control system must be stable, taking into account the beam frequency properties and the feedback circuit. Analysis of system stability takes into consideration first the motion of a particle in the accelerator chamber, upon which an arbitrary disturbance acts varying in time with frequency ω . The equation of betatron oscillations for this case (in the smoothed approximation) can be written in the form

$$r''_{xx} + 2\omega_x' r + \Omega^2 r = \Phi(x) e^{i\omega t}, \quad (1)$$

where x is the distance along the chamber axis, and

$$\Phi(x+L) = \Phi(x); \quad (2)$$

here L is the length of the accelerator vacuum chamber. The variables x and t for each particle are connected by the explicit relation

$$x = v(t - t_0). \quad (3)$$

Card 2/4

L 2151-66

ACCESSION NR: AT5007960

Introduction of conditions (2) and (3) into equation (1) gives:

$$r'' + 2ar' + \Omega^2 r = \sum_{h=-\infty}^{+\infty} C_h e^{i \frac{2\pi h}{L} x + i \left(\frac{x}{v} + t_0 \right) \omega}. \quad (4)$$

The steady-state solution of equation (4) can be written in the form

$$r(x, t_0) = e^{i \omega t_0} \sum_{h=-\infty}^{\infty} \frac{C_h e^{i \Omega_h x}}{\Omega^2 - \Omega_h^2 + 2i\alpha\Omega_h}, \quad (5)$$

where $\Omega_h = 2\pi \frac{k}{L} + \frac{\omega}{v}$.

Expression (5) describes the trajectory of an arbitrarily chosen particle. In order to obtain the form of the orbit in an arbitrary location according to azimuth as a function of time, it is necessary to eliminate t_0 from relations (3) and (5):

$$r(x, t) = e^{i \omega t} \sum_{h=-\infty}^{\infty} \frac{C_h e^{i \frac{2\pi h}{L} x}}{\Omega^2 - \Omega_h^2 + 2i\alpha\Omega_h}. \quad (6)$$

In the report these expressions are used to investigate a concrete control system with negative feedback in the derivative, which is calculated with the aid of suitable processing of the data from transducers of beam position. The beam position

Card 3/4

L 2151-66

ACCESSION NR: AT5007960

transducers measure the position of the orbit of the accelerated particles at a given location of the chamber i.e., the quantity $r(x, t)$. These transducers permit calculation of two different derivatives of r with respect to x : $r'_x(x, t)$ and $r'_{xx}(x, t_0)$. These derivatives do not coincide if the disturbance depends upon time. "In conclusion the authors thank V. V. Vladimirov for his valued comments." Orig. art. has: 20 formulas.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki GKAE SSSR (Institute of Theoretical and Experimental Physics, GKAE SSSR)

SUBMITTED: 26 May 64

ENCL: 00

SUB CODE: NP

NO REF Sov: 002

OTHER: 000

doy
Card 4/4

L 23127-66 EWT(m)/EWP(1) IJP(c)
ACC NR: AP6001564

SOURCE CODE: UR/0120/65/000/006/0019/0023

AUTHOR: Zenkevich, P. R.; Koshkarev, D. G.

ORG: Institute of Theoretical and Experimental Physics, GKAE (Institut teoreticheskoy i eksperimental'noy fiziki GKAE); Institute of the Physics of High Energies, GKAE, Moscow (Institut fiziki vysokikh energiy GKAE)

TITLE: System for correcting forced oscillations in accelerators with derivative-type feedback

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1965, 19-23

TOPIC TAGS: circular accelerator, particle accelerator, electronic feedback, particle beam

ABSTRACT: The stability and optimal parameters of the derivative-type correction system were considered in an earlier authors' work (International Accelerator Conference, 1963). In the present article, the problems of the number and deployment of derivative-yielding sensors, of the errors involved, and the establishment of a closed orbit when the correction system is turned on are explored. It is also suggested that the derivative-type correction system be used for aligning the first

Card 1/2

UDC: 621.384.6

L 23127-66

ACC NR: AP6001564

orbit; also, the efficiency of the system in correcting the first orbit and a closed orbit is investigated. It is found that: (1) The above correction system can reasonably well suppress the resonant spectrum harmonics with a rather few (approximately equal to Q) corrective magnets; (2) This correction system may also prove useful in linear accelerators; (3) The system can suppress any coherent instability of the beam, whatever the physical cause for the instability might be. Orig. art. has: 39 formulas.

SUB CODE: 18, 09 / SUBM DATE: 20Nov64 / ORIG REF: 002

BB

Card 2/2

KOSHKAREV, T.

KOSHKAREV, T.

Improve grain transportation. Muk.-elev. prom. 20 no. 4:26
(MLRA 7:7)
Ap '54.

1. Upravleniye Severo-Kavkazskoy zheleznoy dorogi.
(Grain--Transportation)

KOSHKAREV, T.

Transferring short freight hauls from railroads to truck transportation. Avt.transp. 32 no.6:34 Je '54. (MIRA 7:9)
(Railroads--Freight) (Transportation, Automotive)

KOSHKAREV, T.

Eliminating shortcomings of mixed rail and water transportation.
Rech.transp. 14 no.2:17-19 F '55. (MIRA 8:5)

1. Zamestitel' nachal'nika sluzhby gruzovoy raboty i planirovaniya
perevozok upravleniya Severo-Kavkasskoy zh.d.
(Freight and freightage)

KOSHKAREV, T.

Expand combined railroad and water transportation. Rech. transp. 19
no.4:12-14 Ap '60. (MIRA 14:3)

1. Nachal'nik otdela planirovaniya perevozok Severo-Kavkazskoy
zheleznoy dorogi.
(Inland water transportation)
(Railroads—Freight)

KOSHKAREV, T.

Taking better advantage of sea lanes. Mor.flot 19 no.10:
3-4 0 '59.

(MIRA 13:2)

1. Nachal'nik otdela planirovaniya perevozok Severo-Kavkazskoy zheleznoy dorogi.
(Black Sea region--Transportation)

KOSHKAREV, T.

Cooperation of railroad and automotive transportation at the Rostov-on-Don railroad junction. Avt. transp. 38 no. 9:39-40 S '60.
(MIRA 13:9)

1. Nachal'nik otdela planirovaniya prervozok Severo-Kavkazskoy
zheleznoy dorogi.
(Rostov-on-Don--Transportation, Automotive)
(Rostov-on-Don--Railroads)

KOSHKAREV, T.

Railroad and water transportation workers should conduct their operations in harmony. Rech. transp. 21 no.5:13-15 My '62.

1. Nachal'nik otdela planirovaniya Severo-Kavkazskoy zheleznay dorogi.
(MIRA 15:5)

(Transportation)

KOSHKAREV, T.

For concerted action between workers of railroad and sea trans-
portation. Mor. flot 22 no.10:5-6 0 '62. (MIRA 15:10)

1. Nachal'nik otdela planirovaniya perevozok Severokavkazskoy
zheleznoy dorogi.

(Transportation)

KOSHKAREV, T.G., inzh.

Better organization of the transportation of construction materials.
Zhel. dor. transp. 43 no. 7:34-37 Jl '61. (MIRA 14:7)

1. Nachal'nik otdela planirovaniya perevozok Severo-Kavkazskoy
dorogi (g.Rostov-na-Donu).
(Building materials—Transportation)

KOSHKAREV, T.Z. (Rostov-na-Donu)

Possibilities of reducing transportation costs. Zhel.dor.transp.
44 no.11:37-39 N '62. (MIRA 15:11)

1. Nachal'nik otdela planirovaniya perevozok Severo-Kavkazskoy
dorogi.

(Transportation--Costs)

KOSHKAREV, V.A., inzhener; SHESTOPALOV, K.S.

Device for use in placing cement concrete road surfaces. Avt.
(MIRA8:10)
dor.17 no.3:24-25 N-D'54.
(Road machinery)

KOSHKAREVA, K.I.

Significance of "slipping" in schizophrenic thought and its
pathophysiological basis. Trudy Gos.nauch.-issl.inst.psikh. 27:97-
100 '61.
(MIRA 15:10)

1. Tomskiy meditsinskiy institut. Dir.-prof. I.V.Toroptsev.
Kafedra psikiatrii - zav. prof. A.A.Perel'man [deceased].
(SCHIZOPHRENIA) (THOUGHT AND THINKING)

KOSHKAREVA, L.D.

Downpours and initial parameters for calculating torrential
flow in Khabarovsk Territory and Amur Province, Sbor. nauch.
rab. DVNIIS no.1:217-244 '61. (MIRA 16:11)

SOV/137-59-1-1852

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 245 (USSR)

AUTHOR: Koshkareva, L. I.

TITLE: Gas Nitrocarburization (Gazovaya nitrotsementatsiya)

PERIODICAL: Tekhnol. ugol'n. mashinostroyeniya, 1958, Nr 1, pp 38-44

ABSTRACT: The VNIIP TUGLEMASH (All-Union Scientific Research Institute of Hoisting and Conveying Machinery for Coal), in co-operation with industrial plants, carried out work on the development and introduction of the process of nitrocarburization (N) of parts of pneumatic drills and hammers, mine-shaft drilling and boring machines, etc., that are exposed to wear. N was performed on a special apparatus (plan adduced) and in industrial furnaces of the plant. Lamp kerosene and NH₃, fed into the furnace separately, were used as the carburizer. The optimum NH₃-to-kerosene ratio is ~0.6 - 0.86 liters NH₃ to 1 cc kerosene. Gas pressure in the furnace should be 90 - 150 mm water. Two types of N process, a direct and a stepwise process, were developed: The direct method is used for machine parts of 15Kh, 20, 20Kh, 12KhN2A, and other steels with a 1 mm deep nitrocarburized layer and is carried out in the open air or in a furnace at relatively low

Card 1/2

SOV/137-59-1-1852

Gas Nitrocarburization

temperatures (840 - 870°C); after N the parts are precooled in air or in the furnace to 800 - 820° and then quenched in oil. The stepwise procedure is used for machine parts with a >0.9-mm depth of the layer and proceeds in two stages; In the first stage the surface layers are saturated with C alone at 900 - 940°; in the second stage, simultaneously with further carburization, N saturation is carried out at 830 - 850°. Process data are adduced. Tests showed that wear resistance of nitrocarburized parts is 100% higher than that of carburized ones. The application of N afforded the substitution of 15Kh steel for the expensive 12Kh2N4A steel for spiral rods. The heat treatment cycle is shortened by 30 - 50% in comparison with gas carburization.

A. B.

Card 2/2

GRIGOR'YEV, Yuryi Yevgen'yevich; ZIL'MERMAN, Rafail Isaakovich;
KOSHKAROV, Boris Vladimirovich; MERMAN, Isaak Abramovich;
REUT, Mikhail Antonovich; FAYERMAN, A.L., red.;
BUL'DYAYEV, N.A., tekhn. red.

[Handbook on the construction of electric power transmission lines] Spravochnik po stroitel'stvu linii elektroperedachi. Pod obshchey red. A.D.Romanova. Moskva, Gosenergoizdat, 1963. 488 p. (MIRA 17:1)
(Electric lines--Overhead)

KOSHKAROVA, D.D., mladshiy nauchnyy sotrudnik; POPOVA, A.A., kand.
biolog.nauk; YEFREMOVA, R.Z., starshiy nauchnyy sotrudnik

Cultivation practices in the control of tobacco and makhorka
diseases. Zashch. rast. ot vred. i bol. 9 no.3:21-22 '64.
(MIRA 17:4)

1. Azerbaydzhanskiy institut zashchity rasteniy, Kirovabad (for
Koshkarova). 2. Ukrainskaya optytnaya stantsiya po tabaku i
makhorka, Priluki, Chernigovskaya obl. (for Popova, Yefremova).

NENAYEVDNIKOV, I.A.; KOSHKAROVA, K.I.

Effect of short heat treatments on the mechanized properties
of 20S sheet steel. Metalloved. i term. obr. met. no.11:
45~46 N '65. (MJRA 18:12)

1. Zavod "Krasnoye Sormovo".

TIMOFYEVA, A.N.; KOSHKAROVA, T.K.; GRIBANOVSKAYA, Ye.Ya.

Peculiarities of listerellal psychoses. Zhur. nevr. i psikh. 61
no.5:739-746 '61. (MERA 14:7)

1. Psichiatricheskiy sektor Instituta fiziologii imeni I.P.Pavlova
(dir. - akademik V.N.Chernigovskiy) AN SSSR, psichiatricheskaya
klinika (zav. kafedry - prof. I.F.Sluchevskiy) Instituta usovershen-
stvovaniya vrachey imeni S.M.Kirova i kafedra epizootiologii Leningrad-
skogo veterinarnogo instituta.
(PSYCHOSES) (LISTERIOSIS)

KOSHKAREVICH, V.S.

These are no trifles. Avtom. telem. i sviaz' 2 no.7:43 Jl '58.
(MIRA 11:6)

1. Starshiy elektromekhanik Sterlitamakskoy distantsii signalizatsii
i svyazi Ufimskoy dorogi.
(Railroads--Signaling--Maintenance and repair)

Koshkarov, I.F.

124-57-2-1924

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 2, p 64 (USSR)

AUTHOR: Koshkarov, I.F.

TITLE: On the Applicability of the Law of Similarity to the Calculation of Mechanical Flotation Machinery With a Centrifugal Impeller (O primenimosti zakonov podobiya k raschetam mekhanicheskikh flotatsionnykh mashin s tsentrobezhnym impellerom)

PERIODICAL: Tr. Severo-Kavkazsk. gorno-metallurg. in-ta, 1956, Nr 13,
pp 56-61

ABSTRACT: Bibliographic entry

1. Flotation--Equipment 2. Machines--Design 3. Mathematics

Card 1/1

VOYEVODIN, A.V., kand. sel'skokhoz. nauk; IVANOVA, Ye.I., aspirantka; BAGIROV, G.D.; IGAMBERDYEV, Kh., aspirant; TKACH, M.T., agronom; IBAGIMOV, G.R., doktor sel'skokhoz. nauk; ASKEROVA, T.Z.; mladshiy nauchnyy sotrudnik; KOSHKAROVA, D.D., mladshiy nauchnyy sotrudnik; KASUMOV, V.G., mladshiy nauchnyy sotrudnik; RAGIMOV, I.R., mladshiy nauchnyy sotrudnik;

From practices in using poisonous chemicals. Zashch. rast. ot. vred. i bol. 9 no.5:22-24 '64. (MIRA 17:6)

1. Vsesoyuznyy institut zashchity rasteniy (for Voyevodin).
2. Sibirskaya opytnaya stantsiya Vsesoyuznogo nauchno-issledovatel'skogo instituta maslichnykh i efiromaslichnykh kul'tur, Isil'kul', Omskoy oblasti (for Ivanova).
3. Azerbaydzhanskiy institut zashchity rasteniy, Kirovabad (for Bagirov).
4. Surkhandar'inskaya oblastnaya sel'skokhozyaystvennaya opytnaya stantsiya (for Igamberdyev).
5. Kuybyshevskiy punkt ucheta i prognozov (for Tkach).
6. Azerbaydzhanskiy institut zashchity rasteniy (for Ibragimov, Askerova, Koshkarova, Kasumov, Ragimov).
7. Nachal'nik otryada po bor'be s vreditel'nyami i boleznyami rasteniy Chistopol'skogo rayona Tatarskoy ASSR (for Mironov).

KOSHKAROVA, G.M.:

KOSHKAROVA, G.M.: "Increasing the productivity of lucerne as a fixative of atmospheric nitrogen by changing the system of nutrition and irrigation of the soil". Kirovabad, 1955. Min Higher Education USSR. Azerbaydzhan Agricultural Inst. (Dissertations for the Degree of Candidate of Agricultural Sciences.)

So. Knizhnaya letopis'. No. 49, 3 December 1955. Moscow.

COUNTRY : USSR
CATALOGUE : Cultivated Plants - Forage Crops.
PERIOD. : 1951, №.14, 1958, №.6, 450

AUTHOR : Aoshikarov, G. M.
TITLE : Azerbaijan Scientific Research Institute of Cotton Growing
SUBJ. : Accumulation and Activity of Nodular Bacteria in Alfalfa.

TYPE. PER. : Byul. nauchno-tehn. inform. Azerb. n.-i. in-ta, khlopko-
vodstva, 1957, No. 2, 63-65

ABSTRACT : 1952-1954 vegetation and field trials at Azerbaijan
Scientific Research Institute of Cotton Growing (in the city
of Kirovabad) on light chestnut soils and at Shirvanskaya
zonal experiment station on sierozem-meadow soils showed
that the number of nodules on the roots was greater and
also that the accumulation of N in the soils and the content
of total N in the nodules proper were higher on light chest-
nut soils than under similar conditions on sierozem-meadow
soils. -- G. Ya. Bronzova

Card: 1/1

85

KOSHKAROVA, L.

Combine bank and public control. Den. 1 kred. 18 no.11:
66-67 N'60. (MIRA 13:11)

1. Nachal'nik kreditnogo otdela Sverdlovskoy kontroy Gosbanka.
(Sverdlovsk--Banks and banking)
(Sverdlovsk--Communist Party of the Soviet Union--
Party work)

KOSHKAROVA, L. L.

Koshkarova, L. L., Ostanenko, V. F. - The Examination of the Neutron Flow of the Earth's Crust.

The Sixth Session of the Committee for Determining the Absolute Age of Geologic Formations at the Department of Geologic-Geographical Sciences (OGGN) of the USSR Academy of Sciences at Sverdlovsk in May 1957

Izv. Ak. Nauk SSSR, Ser. Geol., No. 1, 1958, p. 115-117 author Pekarskaya, T. B.

KOSHKE, G.; MIKEROV, B.; MIKHAYLOV, V., inzh. (L'vov)

Planning and organizing work on substituting existing production norms with new ones. Sots. trud 6 no.4:75-85 Ap '61.

(MIRA 16:7)

1. Zamestitel' nachal'nika tekhnologicheskogo otdela Moskovskogo avtozavoda im. Likhacheva (for Koshke). 2. Nachal'nik otdela' truda i zarabotnoy platy Yaroslav'skogo motornogo zavoda (for Mikerov).
(Production standards)

KOGAN, Sh.I.; KOSHKELOVA, Ye.N.

Advances in the field of studying lower plants. Izv. AN Turk. SSR.
Ser. biol. nauk no.5:33-35 '64. (MIRA 18:2)

1. Institut botaniki AN Turkmeneskoy SSR.

KOSHKELOVA, Ye.N.

Additional material on the mycoflora of the Kopet-Dag. Trudy Inst.
bot. AN Turk. SSR 7:103-146 '62. (MIRA 17:3)

KOSHKELOVA, Ye.N.

New species and forms of fungi in Turkmenistan. Bot. mat. Otd.
spor. rast. 14:121-133 Ja'61. (MIRA 17:2)

KOSHKELOVA, YE. N.

KOSHKELOVA, YE. N. -- "The Microflora of the Basic Botanical Regions of Kopet-Dag." Acad Sci USSR. Botany Inst imeni V. L. Komarov. Leningrad, 1955. (Dissertation for the Degree of Candidate in Biological Sciences)

SD: Knizhnaya Letopis', No 1, 1956, pp 102-122, 124

KOSHKELOVA, Yelena Nikolayevna; GAPONENKO, N.I., kand. biol.
nauk, nauchn. red.

[Distribution characteristics of the fungi of Kopetdag]
Zakonomernosti raspredeleniya gribov Kopet-Daga. Ashkhabad,
Turkmenizdat, 1964. 46 p. (MIRA 18:3)

KOSHKELOVA, Ye.N.

Symposium on cotton wilt control. Izv. AN Turk. SSR. Ser. biol.
nauk no. 3195-96. 164 (MIRA 14:2)

1. Institut botaniki AN Turkestanской SSR,

S/207/63/000/001/023/028
E032/E114

AUTHOR: Koshkin, A.A. (Moscow)

TITLE: Heat waves in an unlimited medium with a cylindrical cavity

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki,
no. 1, 1963, 138-140

TEXT: It is assumed that a gas or liquid flows through the cylindrical cavity and its temperature varies as $b + a_0 \cos 2\pi\nu t$, where ν is the frequency, t the time, and b the average temperature. The initial temperature of the medium is zero, and the heat transfer between the surface and the medium is described by a heat transfer coefficient a . It is required to find the temperature distribution $t = t(r, \tau)$ in the radial direction and the specific heat flow. The heat transfer equation for the problem is solved and an explicit expression is obtained for the function $t(r, \tau)$. The quasi-stationary solution shows that the temperature at any point in the medium varies harmonically with the same frequency as the temperature of the gas or liquid in the cavity, but the phase of the oscillations lags behind the phase of

Card 1/2

Heat waves in an unlimited medium ...

S/207/63/000/001/023/028
E032/E114

the temperature variation in the cavity. There is 1 figure.

U/C

SUBMITTED: February 5, 1962

Card 2/2

GAMALEYA, A.N.; GYURDZHLAN, A.A.; KOSHKIN, A.F.; NEKRASOV, V.P.; SIMONOV, P.V.

Characteristics of the postoperative period in acute radiation sickness in dogs. Med. rad. 4 no.4:64-70 Ap '59. (MIRA 12:7)

1. Iz otdeleniya luchevoy terapii (nach. A.N. Gamaleya) i eksperimental'noy laboratorii (nach. - kandidat med. nauk A.A. Gyurdzhian) Glavnogo voyennogo gospitalya imeni akad. N.N. Burdenko.

(ROENTGEN RAYS, effects,

on postop. course in exper. surg. in dogs (Rus))

(SURGERY, OPERATIVE

eff. of x-rays on postop. course in exper. surg. in
dogs (Rus))

KOSHKIN, Anatoliy Georgiyevich; PANIN, N.S., red.; PONOMAREVA, A.A.,
tekhn. red.

[Ways to increase the profitability of collective farm pro-
duction] Puti povysheniia rentabel'nosti kolkhoznogo proiz-
vodstva. Moskva, Ekonomizdat, 1963. 111 p. (MIRA 16:3)
(Collective farms--Finance)

KOSHIKIN, A. I.

Experience With the Study of Remote Results of Treatment of Acute Dysentery

VOYENNO-METSIRSKIY ZHURNAL (MILITARY MEDICAL JOURNAL), No 3, 1955. p. 48

KOSHKIN, A.M., inzh., red.; KLIMOVA, G.D., red. izd-va; KASIMOV, D.Ya.,
tekhn. red.

[Instructions SN 179-61 on the design of heating and ventilation of plants for the production of die-cast plastics] Uzakaz-nia po proektirovaniu otopleniya i ventiliatsii tsekhov proizvodstva izdelii lit'em pod davleniem zavodov plasticheskikh mass, SN 179-61. Utverzhdeny 15 avgusta 1961 g. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 21 p. (MIRA 15:3)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.
(Plastics industry--Heating and ventilation)

KOSHKIN, A.M., inzh., red.; STRASHNYKH, V.P., red., izd-va; OSENKO, L.M.,
tekhn.red.

[Instructions SN 177-61 on designing the heating and ventilation
of plants manufacturing phenol formaldehyde resins by the batch
process] Uказания по проектированию отопления и вентиляции
технологии производства фенольформальдегидных смол по периоди-
ческому методу SN 177-61. Утвержден... 15 августа 1961 г.
Москва, Гос.изд-во литературы по строит., архит. и строительным материалам,
1961. 26 п. (MIRA 15:2)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam
stroitel'stva.
(Phenol condensation products)
(Chemical plants--Heating and ventilation)

KOSHKIN, A.M., inzh., red.; STRASHNYKH, V.P., red.izd-va; TEMKINA,
Ye.L., tekhn. red.

[Instructions SN 192-61 for designing the heating and ventilation
of molding-powder shops of plastics plants] Ukarazania po pro-
ektirovaniu otopleniya i ventiliatsii tsekhov press-poroshkov
zavodov plasticheskikh mass (SN 192-61). Moskva, Gosstroizdat,
(MIRA 15:6)
1962. 19 p.

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam
stroitel'stva. (Plastics industry)
(Factories—Heating and ventilation)

KOSHKIN, A.M., inzh., red.; SHITOVA, L.N., red. izd-va; GOL'BERG, T.M.,
tekhn. red.

[Temporary instructions SN 188-61 for laying underground polyethylene
pipes for a water pipeline] Vremennye ukazaniia po podzemnoi ukladke
polietilenovykh trub dlia vodoprovoda (SN 188-61). Moskva, Gos-
stroizdat, 1962. 38 p. (MIRA 15:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroi-
tel'stva.
(Water pipes) (Pipe, Plastic)

KOSHKIN, A.M., inzh., red.; SHITOVA, L.N., red.izd-va; GOL'BERG, T.M.,
tekhn. red.

[Temporary instructions SN 189-61 for the design, assembly, use,
and repair of indoor water pipes made of polyethylene pipe] Vre-
mennye ukazaniia po proektirovaniu, montazhu, ekspluatatsii i re-
montu vnutrennikh vodoprovodov iz polietilenovykh trub (SN 189-61).
Moskva, Gosstroizdat, 1962. 58 p. (MIRA 15:6)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroi-
tel'stva.

(Water pipes)

(Pipe, Plastic)

KOSHKIN, A.M., inzh., red.; STRASHNYKH, V.P., red.izd-va; TARKHOVA, K.Ye., tekhn. red.

[Instruction SN 229-62 on the design of heating and ventilation in steel converter plants] Uказаниia po proektirovaniu otopleniya i ventiliatsii konverternykh tsekhov zavodov chernoi metallurgii, SN 229-62. Izd. ofitsial'noe. Moskva, Gosstroizdat, 1963. 21 p. (MIRA 17:3)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.

KOSHKIN, A.M., inzh., red.; DROZD, T.A., red.izd-va; TARKHOVA,
~~K.Ye.~~, tekhn. red.

[Instructions SN 242-63 for the design of an air blowing unit with a concentrated air supply. Approved by the State Committee for Construction of the U.S.S.R. on April 28, 1963] Ukaraniia po proektirovaniu ustavov vozдушного душirovaniia s sosredotochennoi podachei vozdukh SN 242-63. Utverzhdeny...28 aprelia 1963. Moskva, Gosstroizdat, 1963. 30 p. (MIRA 17:1)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.

KOSHKIN, A.M., inzh., red.; SHITOVA, L.N., red.izd-va; GOL'BERG,
T.M., tekhn. red.

[Provisional instructions on the design of heating and
ventilating systems for continuous steel casting plants]
Vremennye ukazaniia po proektirovaniu otopleniya i ven-
tilatsii ustanovok nepreryvnoi razlivki stali (SN 230-62).
Moskva, Gosstroizdat, 1963. 34 p. (MIRA 17:2)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po de-
lam stroitel'stva .

KOSHKIN, A.M., inzh., red.; STRASHNYKH, V.P., red.izd-va; GOL'BERG,
T.M., tekhn. red.

[Instructions for planning the heating and ventilation in
enterprises manufacturing reinforced concrete products]
Ukazaniia po proektirovaniu otopleniya i ventiliatsii pred-
priatii po proizvodstvu zhelezobetonnykh izdelii [SN 244-63].
Moskva, Gosstroizdat, 1963. 37 p. (MIRA 17:2)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam
stroitel'stva.

KOSHKIN, A.M., inzh., red.; KOVALEV, S.A., inzh., red.

[Provisional technical specifications for designing, assembling, and operating central heating systems with steel stamped and weld panel-type radiators with rear connections. Approved by the State Committee for Construction in the U.S.S.R. September 12, 1963] Vremennye tekhnicheskie usloviia na proektirovanie, montazh i ekspluatatsiu sistem tsentral'nogo otopleniya so stal'nyimi shtampovannymi svarnymi radiatrami panel'nogo tipa s tyl'nym podkliucheniem (SN 258-63). Utverzhdeny Gosudarstvennym komitetom po delam stroitel'stva SSSR 12 sentiabria 1963 g. Moskva, Stroizdat, 1964. 15 p.

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.

KOSHKIN, A.M., inzh., red.

[Provisional instruction for starting, adjusting, and operating ventilating equipment in industrial enterprises] Vremennaya instruktsiya po pustku, nalaadke i ekspluatatsii ventiliatsionnykh ustavovok na pro-myshlennyykh predpriyatiakh (SN 271 - 64). Moskva, Stroizdat, 1964. 47 p. (MIRA 17:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po delam stroitel'stva.

KOSHKIN, A.M., inzh., red.

[Instructions on the design of the heating and ventilation
in buildings used for automobile maintenance services] Uka-
zaniia i ventiliatsii predpriiatii po obsluzhivaniu avto-
mobilei (SN 274 - 64). Utverzhdeny Gosudarstvennym komite-
tom po delam stroitel'stva SSSR, 22 aprelia 1964. Moskva,
Gosstroizdat SSSR, 1964. 55 p. (MIRA 17:12)

1. Russia (1923- U.S.S.R.) Gosudarstvennyy komitet po de-
lam stroitel'stva.

KOSHKIN, A.N.

Attachment for cutting bevel pinions. Mashinostroitel' no. 3,40
Mr '62. (MIRA 15:3)
(Gear-cutting machines)

L 14456-66

ACC NR: AP6002961

(A)

SOURCE CODE: UR/0286/65/000/024/0131/0131

47
Q3

INVENTOR: Koshkin, A. V.

ORG: none

TITLE: A device for automatic adjustment of brake shoes. Class 47, No. 177244

SOURCE: Byulleten' izobreteniij i tovarnykh znakov, no. 24, 1965, 131

TOPIC TAGS: automatic control, transportation equipment, mechanical engineering, automotive industry, brake system,

ABSTRACT: This Author's Certificate introduces a device for automatic adjustment of brake shoes. The unit is connected to the power levers of the brake. Adjustment is improved by making the mechanism in the form of three-armed levers which are held away from the base by springs. Two of the arms of the lever are supported against the base by adjustment bolts, while the third is mounted at an angle to the axis of the corresponding power lever and kinematically connected to this lever through balls wedged between the levers.

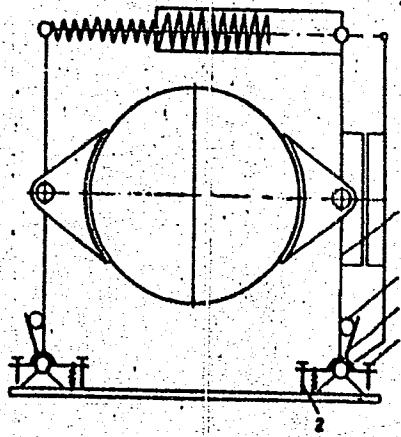
Card 1/2

UDC: 62-592.132-597.8

Z

I. 14456-66

ACC NR: AP6002961



J

1 - three-armed levers; 2 and 3 - adjustment bolts;
4 - third arm of the lever; 5 - balls.

SUB CODE: 13/

SUBM DATE: 11Jul64

Card 2/2 OC

KOSHKIN, Boris Valer'yevich; LYSENKO, A.S., red.

[Taiga secrets] Taezhnye sekrety. Irkutsk, Vostochno-Sibirskoe knizhnoe izd-vo, 1964. 62 p. (MIRA 18:2)

KOSHKIN, D. I.

USSR/Chemistry

Card 1/1

Authors : Zarinskiy, V. A., and Koshkin, D. I.

Title : High frequency titration. Part 1.-

Periodical : Zhur. Anal. Khim, 9, Ed. 1, 29-36, Jan-Febr. 1954

Abstract : An arrangement for high frequency titration working on a 4 mc quartz crystal stabilized generator is described. It is shown on the bases of acid-alkali, oxidizing-reducing titration and reprecipitation reactions that this new arrangement can also be used for volumetric analyses. The path of the titration curves in all investigated cases indicates that the change in total resistance of the nucleus in the solution during titration, in accordance with the current conductance measuring method, is basically determined by the change in the resistance of the solution. Thirty references. Graphs, drawings.

Institution : Acad. of Sc. USSR, The V. I. Vernadskiy Inst. of Geochemistry and Analytical Chemistry, Moscow.

Submitted : Nov. 10, 1953

KOSHKIN, D. I.

✓ High-frequency properties of so
and D. I. Kosch
Anal. Chem.,
A. Kim, 10, 111-11
(1955) (Engl. trans.
analysis of high-freq.
conclusions. For
cell is const. and
resistance of the cell
insignificantly during titration. For dil. solns., the total
resistance of the cell walls
during titration is
of the high-freq.
frequencies the
caused by the cell
resistance of the cell
The current change
very high concn
insignificant and
total resistance
frequency set-up
Thus, in selecting
carried out. It is
resistance of the
in the resistance
tivity of a high
certain limits of
titration app. is desci

titration. II. Change in the electric
titrations during titration. V. A. Zarinskii
(V. I. Verbinskii Inst. Radiochem. and
Geochem. U.S.S.R., Moscow). *Zhur. Anal.*
(1955) 7, *Anal. Chem. U.S.S.R.* 10, 101-6
(translation), cf. C.A. 49, 440e. — A further
frequency titration leads to the following
solns. of high concn, the resistance of the
cell walls and does not change or changes
insignificantly during titration. For dil. solns., the total
resistance of the cell walls increases in series, that
of the soln. The value of the current
changes insignificantly. The sensitivity
of the frequency set-up becomes low. At low fre-
quencies the capacitive component of total resistance
of the cell walls is high and the changes in the re-
sistance are insignificant in comparison with it.
The capacitance resistance of the soln. Is
insignificant. The changes in the cell walls
not affect the current and the high-freq.
becomes insensitive to changes in concn.
the frequency at which titration is to be
carried out. It should provide for sufficient lowering of the
resistance of the cell walls to increase the relative changes
in the soln. It also follows that the sensitivity
frequency titration set-up is max. within
electrolyte concn. A high-frequency titra-
tion and its use illustrated. M. Hesch

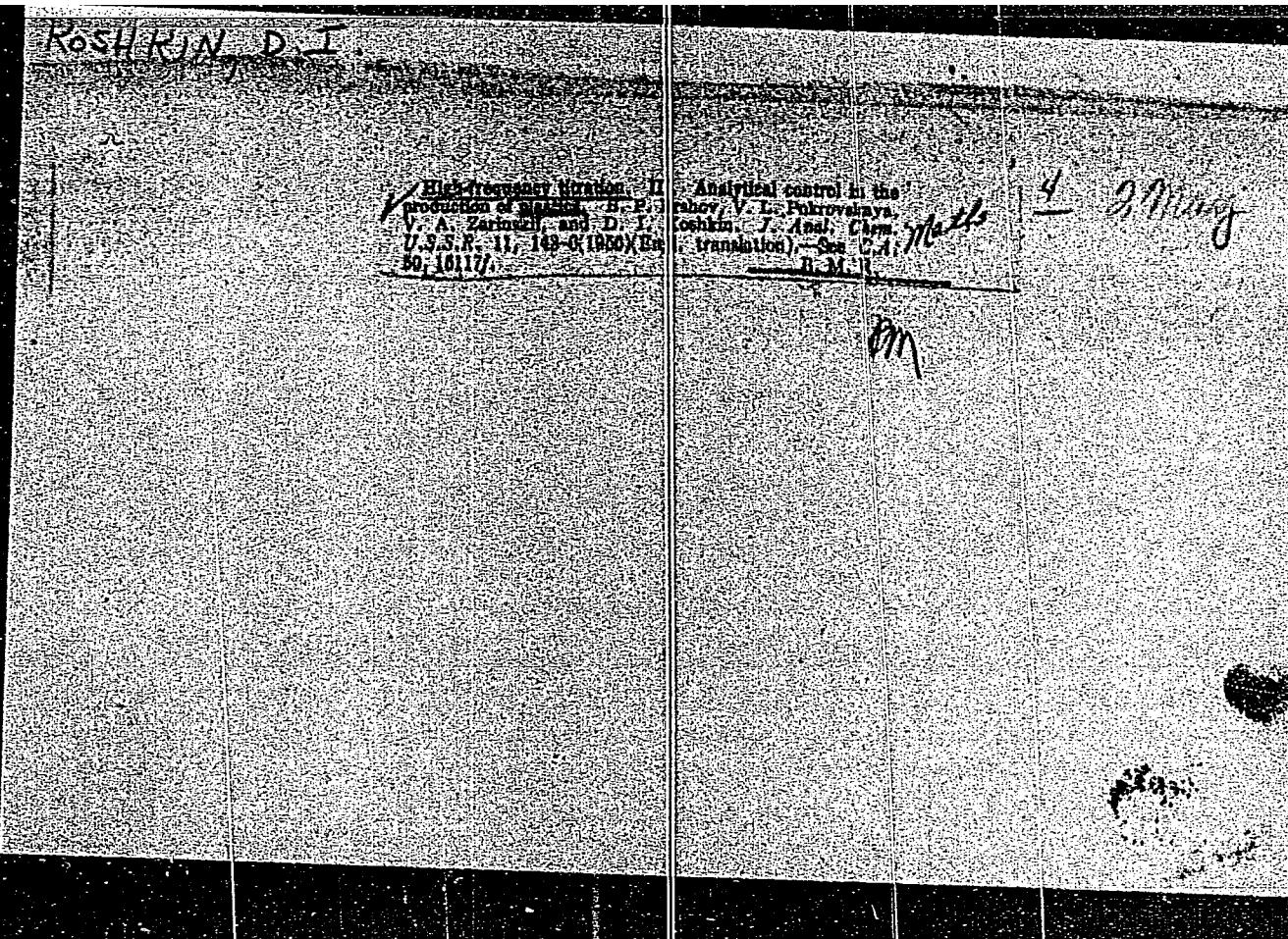
APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R000825110014-9"

Koshkin, D. I.

High-frequency Simpson¹ III. Analytical note
of Koshkin, D. I., Brabov, V. I., Porovskaya, V.
D. I. Koshkin [2], *Anal. Kemi*, 1956, 11, 139-141.
A generator is applied to the determination of acid
coloured as well as coloured solutions, saponifi-
cation products, artificial resins, and phenol and cresol² in the
(*ibid.*, 1955, 10, 110-118).

In production
A. Zaitsev and
A. 36 Mc cps
dialou in dark
ation values of
ture products
G. S. Smith



ZARINSKIY, V.A.; KOSHKIN, D.I.

Apparatus for high-frequency titration. Zav.lab. 22 no.1:110-113
'56. (MIRA 9:5)

1. Institut geokhimii i analiticheskoy khimii imeni akademika
V.I. Vernadskogo AN SSR.
(Volumetric analysis) (Electric apparatus and appliances)

ZARINSKIY, V.A.; KOSHKIN, D.I.; POL'SKIY, V.G.; GENKINA, L.A.

Control of water purification by electrical conductivity. Vest.
AN SSSR 26 no.4:36-38 Ap '56. (MLRA 9:7)
(Water--Purification) (Electric measurements)

✓CSHRM D7

The determination of phenol in aqueous solution, by J. L. F. A. Zarnecki and J. L. Kosko, U.S.P. 2,957,100. — The high conductivity measurement of the changes in the current during titration. At the glass beaker wall conductors would not have to be immersed, located alongside the titration titrations of salts which would would form semiconducting film and was described by Z. and Kosko of 10% alkali if added to 5 ml. the soln and 1000 ml. an all add. to 50 ml. in the cond. accuracy app. and titrated with small portions. The readings of the are recorded, and the level of the microammeter readings do not give the information on the of accuracy of the results is $\pm 5\%$ as 10-16 min.

In crude phenols by W. M. Scammon, U.S.P. 2,957,100. — This is based on the internal electrode of lead, or bromine of 1000 from the current and the salt in the electrolyte, but are used salts, permitting the corrode the electrodes or a type there. The app. (U.S. 4,669,011). At 25°C sample of crude phenols, not 0.25-5 ml. sample was placed into the high-75% HCl, added to 0.5-1.0 ml recording microammeter on of the curve where the range with the HCl adds, 1 mol present in soln. The the time required for analysis. W. M. Scammon

AUTHORS: Zarinskiy, V. A., Koshkin, D. I. 75-13-3-5/27

TITLE: High-Frequency Titration(Vysokochastotnoye titrovaniye)
Communication IV. A Measuring Instrument Based on the Principle of a Bridge Circuit (Soobshcheniye IV. Pribor na osnove mostovoy skhemy)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 3, pp 289-293 (USSR)

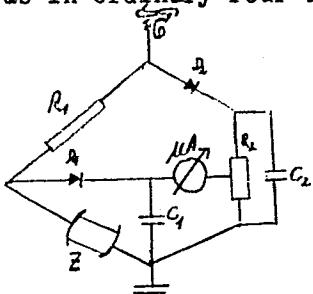
ABSTRACT: The success of the use of high-frequency alternating current in chemical analysis and in production control is above all dependent on the fact whether handy apparatus simple in construction and handling, which are sensitive to concentration measurements in a wide range of concentration, are placed at disposal. In the present paper a device is described which meets these requirements to a higher degree than a previously described apparatus (Refs 1,2). In connecting the cell for high-frequency titration to one arm of a measuring bridge on alternating current it is not possible to obtain a distinct zero point by balancing. The reason for this is a phase displacement in the arms of the bridge and an additional balancing at the ends of the measuring diagonals. As these phenomena

Card 1/3

High-Frequency Titration. Communication IV. A Measuring
Instrument Based on the Principle of a Bridge Circuit

75-13-3-5/27

can only be removed with difficulty alternating-current bridge circuits have hitherto not been used in high-frequency titrations. The authors of the present paper developed a bridge circuit for high-frequency titrations free of this trouble. By means of this arrangement the zero indication of the galvanometer is obtained without any difficulties just as in ordinary four-armed bridge circuits with direct current.



G- high-frequency generator
(35 megacycles),
D₁, D₂- germanium detectors DG Ts 6
Z- cell for the titration
μA- microammeter

Card 2/3

The principal circuit diagram of the new apparatus just as the device itself is drawn in the paper and described in detail. By means of this new device titrations can be per-

High-Frequency Titration. Communication IV. A Measuring Instrument Based on the Principle of a Bridge Circuit 75-13-3-5/27

formed in a wide range of concentrations ($0,5n-1.10^{-3}n$). Moreover different reactions can thus be investigated in non-aqueous media. The manifold possibilities of application of the device are shown in the paper. There are 5 figures and 17 references, 9 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (Moscow, Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, AS USSR)

SUBMITTED: October 2, 1957

1. Chemical analysis--Instrumentation 2. High frequency currents
--Applications

Card 3/3

KOSHKIN, Grigoriy Ivanovich; PANKRASHOV, A.P., red.

[Make better use of forest resources] Polne i sapol'zovat' lesnye bogatstva. Petrozavodsk, Karelskoe knizhnoe izdatel'stvo, 1964. 59 p. (MIRA 18:9)

KAMENETSKIY, Boris Iosifovich; KOSHKIN, Ivan Gavrilovich; IVANOV, S.S.,
red.; GALAKTIONOVA, Ye.N., tekhn.red.

[Handbook for project work for course credit in the organization
of road construction] Posobie po kursovomu proektirovaniu organizatsii
stroitel'stva dorog. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo
transp. i shosseinykh dorog RSPSR, 1960. 167 p.

(MIRA 14:3)

(Road construction--Study and teaching)

KOSHKIN, K.; KATSIGRAS, G.; SERGEYEV, A.; YAKUBOV, Kh.

Using the matching method in assembling the engine and gearbox.
Avt. transp. 41 no. 9:24-29 S '63. (MIRA 16:10)

KOSHKIN, K.; KATSIGRAS, G.; SERGEYEV, A.; YAKUBOV, Kh.

Assembly of the reductor and front axle by the selective trial-and-error method. Avt.transp. 41 no.11:26-30 N '63. (MIRA 16:12)

PESHKOVSKIY, Leonid Mikhaylovich; KOSHIN, X.A., dots., kand. tekhn. nauk, otv. red.; GONCHAROVA, I.V., red.izd-va; SAGITULLINA, R.I., tekhn. red.

[Manual on laboratory research in soil science, soil mechanics, bases, and foundations] Rukovodstvo k laboratornym zaniatiiam po gruntovedeniu, mekhanike grunfov, osnovaniiam i fundamentam dlja studentov stroitel'nogo fakul'teta. Moskva, Vses. zaochnyi politekhn. in-t. No.1. 1960. 33 p. (MIRA 16:8)
(Soil mechanics) (Foundations)